**1.** Explain the events of the cardiac cycle.

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(Total 7 marks)

**2.** Describe the role of enzymes in the process of digestion of proteins, carbohydrates and lipids in humans.

(Total 6 marks)

**3.** Which organ secretes enzymes that are active at a low pH?

A. Mouth

B. Pancreas

C. Stomach

D. Liver

(Total 1 mark)

**4.** State the sources, substrate, product, and optimum pH conditions for the enzyme amylase.

(Total 4 marks)

**5.** Which of the following is correct regarding the enzymes listed in the table?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Enzyme** | | |
|  |  | **Amylase** | **Lipase** | **Protease** |
| A. | Substrate | polysaccharide | emulsified fat | dipeptide or polypeptide |
| B. | Substrate | emulsified fat | dipeptide or polypeptide | polysaccharide |
| C. | Product | amino acids | small polysaccharides or monosaccharides | fatty acids and glycerol |
| D. | Product | small polysaccharides or monosaccharides | amino acids | fatty acids and glycerol |

(Total 1 mark)

**6.** Which of the following structures help the absorption of food by the small intestine?

I. Capillary networks

II. Villi

III. Microvilli

IV. Membrane proteins

A. I and II only

B. II and III only

C. II, III and IV only

D. I, II, III and IV

(Total 1 mark)

**7.** What is the function of the right ventricle?

A. Pumping blood into the pulmonary artery

B. Pumping blood into the pulmonary vein

C. Pumping blood into the aorta

D. Pumping blood into the coronary artery

(Total 1 mark)

**8.** Draw a diagram of a villus in vertical section.

(Total 5 marks)